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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/644,290      | 08/19/2003  | Chang-Lung Kang      | B-5208 621170-6     | 5796             |

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| EXAMINER |
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TRAN, THUY V

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2821

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |              |  |
|------------------------------|-----------------|--------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s) |  |
|                              | 10/644,290      | KANG ET AL.  |  |
|                              | Examiner        | Art Unit     |  |
|                              | Thuy V. Tran    | 2821         |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment submitted on 02/03/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 7-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This is a response to the Applicant's amendment submitted on February 3<sup>rd</sup>, 2005. In virtue of this amendment, claim 23 is canceled; and thus, claims 1-22 are now presented in the instant application.

Upon reconsideration, the indicated allowability of claims 1 and 17 is hereby withdrawn in view of the teachings of a newly discovered prior art to Crane (U.S. Patent No. 6,150,772). The rejections are being made as follows:

#### ***Claim Objections/ Minor Informality***

1. Claims 1, 7, and 17 are objected to because of the following informalities:

Claim 1, line 5, "either" should be changed to --other--;

Claim 7, line 4, "two sides" should be changed to --other side--;

Claim 17, line 5, "two sides" should be changed to --other side--; and "each of" should be deleted.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6, and 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Crane (U.S. Patent No. 6,150,772).

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With respect to claim 1, Crane discloses, in Fig. 2C, a multi-lamp backlight system comprising (1) a core [160], (2) a first coil set (on the side of power transistors [156, 158]) wrapped around the core [160] to which a first AC voltage is applied, (3) a second coil set and a third coil set (on the side of lamps) wrapped around the core [160] and respectively disposed on other side of the first coil set, on which a second and third AC voltage are induced (since [160] is a step-up transformer; see col. 8, lines 66-67) by the first AC voltage signal applied to the first coil set respectively, wherein numbers of coils in the second and third coil sets are substantially the same (see Fig. 2C), and (4) a first lamp and a second lamp [12; HCFL] supplied with power by the second and third AC voltage respectively.

With respect to claim 2, Crane discloses that the first and second lamps are discharge lamps (see col. 2, lines 8-10).

With respect to claim 3, Crane discloses that the discharge lamps are CCFL (see col. 2, lines 8-10).

With respect to claim 4, Fig. 2C of Crane shows that each of the second and third coil sets has two ends of, respectively, first and second polarities, and the first lamp and the second lamp [12; HCFL] are coupled to the ends of the first polarity of the second and third coil sets respectively.

With respect to claim 6, Crane discloses, in Fig. 2C, a first driving circuit [156, 158] for providing the first AC voltage.

With respect to claim 16, Crane discloses, in Fig. 2C, a feedback network [105] coupled between the first lamp and the second lamp [HCFL], and the first driving circuit [156, 158].

With respect to claim 17, Crane discloses, in Fig. 2C, a multi-lamp backlight system comprising (1) a core [160], (2) a first coil set (on the side of power transistors [156, 158]) wrapped around the core [160] to which a first AC voltage is applied, (3) a plurality of second coil sets (on the side of lamps) wrapped around the core [160] and symmetrically disposed on other side of the first coil set, on which a second AC voltage is induced (since [160] is a step-up transformer; see col. 8, lines 66-67) by the first voltage signal applied to the first coil set, wherein numbers of coils in the second sets are substantially the same (see Fig. 2C), and (4) a plurality of lamps [12; HCFL] supplied with power by the second AC voltages.

With respect to claim 18, Crane discloses that the lamps are discharge lamps (see col. 2, lines 8-10).

With respect to claim 19, Crane discloses that the discharge lamps are CCFL (see col. 2, lines 8-10).

With respect to claim 20, Fig. 2C of Crane shows that each of the second coil sets has two ends of, respectively, first and second polarities, and the lamps [12; HCFL] are coupled to the ends of the first polarity of the second coil sets.

With respect to claim 21, Crane discloses, in Fig. 2C, a first driving circuit [156, 158] for providing the first AC voltage.

With respect to claim 22, Crane discloses, in Fig. 2C, a feedback network [105] coupled between the lamps [HCFL] and the first driving circuit [156, 158].

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crane (U.S. Patent No. 6,150,772) in view of Lin et al. (U.S. Patent No. 6,717,372).

With respect to claim 5, Crane discloses all of the claimed subject matter, as expressly recited in claim 1, except for a first capacitor and a second capacitor being coupled between the first lamp and the second coil set, and the second lamp and the third coil set, respectively.

Lin et al. discloses, in Fig. 2, a multi-lamp backlight system comprising a first capacitor [C1] and a second capacitor [C2] being coupled between a first lamp [Lp1] and a second coil set, and a second lamp [Lp2] and a third coil set, respectively.

It would have been obvious to one of ordinary skills in the art at the time of the invention to modify the multi-lamp backlight system of Crane by additionally configuring a first capacitor and a second capacitor between the first lamp and the second coil set, and the second lamp and the third coil set, respectively, to limit current flowing through the lamps since such an arrangement of the capacitors for the stated purpose has been well known in the art as evidenced by the teachings of Lin et al. (see Abstract, lines 7-8).

***Allowable Subject Matter***

6. Claims 7-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest:

- A multi-backlight system comprising a plurality of fourth coil sets and a plurality of third lamps, wherein numbers of coils of the fourth coil sets are substantially the same, the fourth coil sets are symmetrically disposed on other side of the first coil set, the first AC voltage applied to the first coil set induces a fourth AC voltage on each of the fourth coil sets and the third lamps are supplied with power by the fourth AC voltages, in combination with the remaining claimed limitations as called for in claim 7;
- A multi-backlight system comprising a second driving circuit, and a fifth coil set wrapped around the core, and having a first end coupled to a first end of the first coil set and a second end coupled to the second driving circuit, in combination with the remaining claimed limitations as called for in claim 8 (claims 9-11 would be allowable since they are dependent on claim 8); and
- A multi-backlight system comprising a third driving circuit, and a seventh coil set wrapped around the core, and having a first end coupled to the first end of the first coil set and a second end coupled to the third driving circuit, and an eighth coil set wrapped around the core, and having a first end and a second end coupled to the third driving circuit, in combination with the remaining claimed limitations as called for in claim 12 (claims 13-15 would be allowable since they are dependent on claim 12).

***Citation of relevant prior art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Prior art Fujita et al. (U.S. Patent No. 5,144,203) discloses a circuit for driving an electric field luminous lamp.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

04/17/2005



**THUY V. TRAN**  
**PRIMARY EXAMINER**